Completing the 300 examinations recommended by the American Institute of Ultrasound in Medicine. Only 16% of programs reported that they were currently billing for emergency physician–performed ultrasonography. Of those programs not billing, 12% planned to bill within 1 year, and 37% planned to bill at some future date.

**Conclusion:** There is a continuing increase in the number of emergency medicine residency programs that are training in and performing bedside emergency physician–performed ultrasonography. The number of residency programs that meet specialty-specific guidelines has more than doubled in the past 4 years; however, only a small number currently meet guidelines from the American Institute of Ultrasound in Medicine. At present, only 16% of programs are billing for emergency physician–performed ultrasonography, but most programs had plans to do so in the future.

**Comment:** Clearly, this study shows that there is considerable variability in the training of our staff and residents. There appear to be inadequate quality assurance processes in place (only 70% of respondents have a quality assurance process). Even if there were complete quality assurance compliance, there do not seem to be clear standards for training. About 40% are using the American College of Emergency Physicians standard of 150 scans with 16 hours of didactic time. An interesting problem to be answered is: What are the obstacles that academic emergency medicine programs must overcome to reach minimal standards of performance? The hospital credentialing system, specialty turf wars, or cost are 3 possible hurdles.

Billing for ultrasonography occurs in about 16% of respondents; the income from these procedures could finance some portion of ultrasonography training programs. However, billing still might be affected by credentialing problems, whether by hospital or insurance company. At our residency program, we were notified that a number of our bills were rejected from one insurance company because we were not identified as approved providers of ultrasonography procedure; after a thorough inspection, we were added to the list for that company. Another obstacle to billing is that the insurance system will only accept one bill for the procedure (ie, they will not pay both an emergency department [ED] and a competing bill from radiology). Agreements with the radiologists at your hospital about using limited or reduced services identifiers for Current Procedural Terminology codes for ED ultrasonography can help because bills for a limited or reduced services study and full study will both be paid in most cases for the same day.

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**Effect of Dextromethorphan, Diphenhydramine, and Placebo on Nocturnal Cough and Sleep Quality for Coughing Children and Their Parents**

Paul IM, Yoder KE, Crowell KR, et al
(Pennsylvania State College of Medicine, Hershey, PA)
*Pediatrics.* 2004;114:e85-e90

**Background:** Cough is one of the most troubling symptoms in children with upper respiratory tract infections and prompts more ambulatory health care visits than any other symptom in the United States. Cough is particularly bothersome at night because it often has an adverse effect on sleep for both the ill children and the parents. Thus, many parents will administer the over-the-counter medications diphenhydramine or dextromethorphan before bedtime to children with cough to improve their own sleep and functioning during the following day. The purpose of the present study was to determine whether the commonly used over-the-counter medications diphenhydramine and dextromethorphan are superior to placebo for the treatment of nocturnal cough and sleep difficulty associated with upper respiratory tract infections and to determine whether parents have improved sleep quality when their children received the medications when compared with placebo.

**Methods:** Parents of 100 children with upper respiratory tract infections were questioned to determine the frequency, severity, and bothersome nature of nocturnal cough in the children. Their responses were recorded on 2 consecutive days, initially on the day of presentation, when no medication had been given the previous evening, and then again on the subsequent day, when either medication or placebo was given before bedtime. Sleep quality was assessed on both nights for both the child and the parent.

**Results:** All outcomes were significantly improved for the entire cohort on the second night of the study, when either medication or placebo was administered. However, neither diphenhydramine nor dextromethorphan produced a superior benefit compared with placebo for any of the outcomes.
studied. Insomnia was reported more frequently in children who were given dextromethorphan, and drowsiness was reported more commonly in patients who were given diphenhydramine.

**Conclusion:** It would appear from these findings that diphenhydramine and dextromethorphan are not superior to placebo in providing nocturnal symptom relief for children with cough and sleep difficulty as a result of an upper respiratory infection. It was also found that the administration of these medications to children with cough does not provide improved quality of sleep for their parents compared with placebo. These findings, the potential for adverse effects, and the individual and cumulative cost of these medications should be considered by each clinician before these drugs are recommended to families.

**Comment:** Children’s cough is a complaint that can present at night in the emergency department because it affects both children’s and parents’ sleep and awake patterns. This study evaluated the most commonly used medications for nocturnal cough for upper respiratory infections in improving sleep quality compared with placebo. The treatment of cough is not supported by the American Academy of Pediatrics, mainly because there is a lack of proven benefit and the possibility for toxicity and overdose. Survey questions assessed nocturnal cough and sleep quality for both child and parent. All groups showed dramatic improvement in cough frequency, impact on child and parent sleep, and “bothersome” nature of cough and severity of cough. When separated by treatment group (diphenhydramine, dextromethorphan, and placebo), there was no statistical difference among all groups. The most common adverse effects were hyperactivity, insomnia (dextromethorphan), and drowsiness (diphenhydramine); however, there was no significant difference between the treatment groups.

Several limitations should be noted. First, these responses are a subjective report by parents, and they could be inaccurate. The answers were paired and compared with their own responses from the previous night, thus eliminating this limitation. Additionally, there was no reassurance that parents were compliant to medication administration. Telephone follow-up was the only reassurance of this compliance. Still, the overall results in this study were remarkable. They are reassuring to clinicians that, regardless of treatment, the improvement of symptoms occurs with time alone, as expected with the natural history of upper respiratory infections.

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**Near-Fatal Asthma Related to Menstruation**

Martinez-Moragón E, for the Spanish High Risk Asthma Research Group (Hospital de Sagunto, Valencia, Spain; et al)

**J Allergy Clin Immunol. 2004;113:242-244.**

**Background:** Menstruation has been reported to be a possible trigger of near-fatal asthma episodes. However, the evidence of this correlation remains weak. The current study further investigated the role of menstruation as a contributor to the development of near-fatal asthma episodes in women of reproductive age.

**Methods:** Forty-four women with near-fatal asthma were included in the multicenter trial. Patients and clinical data were obtained. Spirometric and allergy studies were also performed when the patients were in stable condition. A near-fatal asthma episode was defined as a severe exacerbation with one or more of these events: respiratory arrest, need for mechanical ventilation, PaCO$_2$ exceeding 50 mm Hg, and pH of less than 7.30.

**Findings:** Significantly more near-fatal asthma episodes occurred on the first day of menstruation than on the remaining days. Twenty-five percent of women experiencing near-fatal asthma episodes had these exacerbations on the first day of their menstrual cycle. In addition, patients seeking care on the first day of menstruation used more inhaled salbutamol as rescue medication.

**Conclusion:** In women with unstable asthma, menstruation may be a contributing factor to the development of near-fatal asthma episodes. Self-management plans of asthmatic women of reproductive age should include systematic recording of asthma symptoms and pulmonary function during the perimenstrual phase.

**Comment:** Martinez-Moragón suggests that menstruation was not the isolated trigger of near-fatal asthma in these patients but served as a contributing factor in patients whose asthma was already unstable and severe. Although they may be right, it is important to be aware that their findings contrast with those previously reported by Mitchell et al.¹

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